

LISTING OF CLAIMS

1. (original) An integrated hydraulic valve actuator comprising:
  - a housing internally defining a through opening;
  - a cylindrical liner received in an upper portion of the housing, the liner internally defining a cylinder and riding surface receiving a reciprocable piston subassembly;
  - the piston subassembly including a boost piston defining an internal cylinder and a drive piston extending through and reciprocable in the internal cylinder of the boost piston;
  - the liner cylinder being open to receive pressurized fluid to axially move the piston subassembly within the cylinder; and
  - a drive piston position sensor extending into the housing and engaging a cam on the drive piston to sense the position of the drive piston within the cylinder.
2. (original) A valve actuator according to claim 1 wherein the housing is formed of metal.
3. (original) A valve actuator according to claim 1 wherein the liner is formed of metal.
4. (currently amended) An integrated hydraulic ~~actuated~~ valve actuator comprising:
  - a housing internally defining a stepped bore having an upper major diameter, a middle intermediate diameter, and a lower minor diameter;
  - a cylindrical liner received in the major diameter of the stepped bore, the liner internally defining a cylinder and riding surface;

a piston subassembly received in the cylinder for actuating an engine valve, the subassembly including a tubular boost piston defining an internal cylinder and a drive piston reciprocable in the internal cylinder of the boost piston;

the liner cylinder being open to the major diameter of the stepped bore for receiving pressurized fluid to axially move the piston subassembly within the liner cylinder; and

a drive piston position sensor extending radially into the housing and operable to determine the position of the drive piston within the cylinder.

5. (currently amended) A valve actuator according to claim 4 wherein the boost piston has a flange engaging lower end of liner to limit upward travel of the piston subassembly.

6. (currently amended) A valve actuator according to claim 4 wherein the flange of the boost piston is engageable with an upper end of the stepped bore minor diameter to limit downward travel of the boost piston.

7. (original) A valve actuator according to claim 4 wherein the drive piston has an upper portion received within the boost piston and a tapered lower end extending from the upper portion.

8. (currently amended) A valve actuator according to claim 4 wherein ~~[[the]]~~ a tapered lower end of the drive piston is engageable with the boost piston to limit upward travel of the drive piston.

9. (currently amended) A valve actuator according to claim 4 wherein ~~[[the]]~~ a piston position sensor engages the tapered lower end of the drive piston.

10. (new) An integrated hydraulic valve actuator comprising:

a housing internally defining a through opening;

a removable cylindrical liner received in an upper portion of the housing, the liner internally defining a cylinder and riding surface receiving a reciprocable piston subassembly removable with the liner from the housing;

the piston subassembly including a boost piston defining an internal cylinder and a drive piston extending through and reciprocable in the internal cylinder of the boost piston;

the liner cylinder being open to receive pressurized fluid to axially move the piston subassembly within the cylinder; and

a drive piston position sensor extending into the housing and engaging a cam on the drive piston to sense the position of the drive piston within the cylinder.

11. (new) An integrated hydraulic valve actuator comprising:

a housing internally defining a through opening and having an upper portion adapted to be received in a bore of a supply manifold and a flange extending from the housing adapted to attach the housing to the supply manifold;

a cylindrical liner received in an upper portion of the housing, the liner internally defining a cylinder and riding surface receiving a reciprocable piston subassembly;

the piston subassembly including a boost piston defining an internal cylinder and a drive piston extending through and reciprocable in the internal cylinder of the boost piston;

the liner cylinder being open to receive pressurized fluid to axially move the piston subassembly within the cylinder; and

a drive piston position sensor extending into the housing and engaging a cam on the drive piston to sense the position of the drive piston within the cylinder.